

WO 2004/094663 A2

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
4 November 2004 (04.11.2004)

PCT

(10) International Publication Number  
**WO 2004/094663 A2**

- (51) International Patent Classification<sup>7</sup>: C12Q 1/68      (74) Agent: GILL, JENNINGS & EVERY: Broadgate House, 7 Eldon Street, London EC2M 7LH (GB).
- (21) International Application Number: PCT/GB2004/001665      (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NL, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SI, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 16 April 2004 (16.04.2004)      (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BE, BJ, CI, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (25) Filing Language: English      (26) Publication Language: English
- (30) Priority Data: 0308852.3      16 April 2003 (16.04.2003) GB
- (71) Applicant (for all designated States except US): LINGVITAE AS [NO/NO]; Trimveien 6, A562, N-0372 Oslo (NO).
- (71) Applicant (for AG only): JAPPY, John, William, Graham [GB/GB]; Gill Jennings & Every, Broadgate House, 7 Eldon Street, London EC2M 7LH (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): LEXOW, Preben [NO/NO]; LingVitae AS, Trimveien 6, A562, N-0372 Oslo (NO), RAGNHILDSTVEIT, Erlend [NO/NO]; LingVitae AS, Trimveien 6, A562, N-0372 Oslo (NO).

Published:

- without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR IDENTIFYING CHARACTERISTICS OF MOLECULES

(57) Abstract: The present invention is a method for identifying one or more characteristics of a target molecule, and comprises the steps of: converting the characteristics of the molecule into a polynucleotide of defined sequence, wherein each characteristic is represented by at least one distinct unit on the polynucleotide, the unit comprising at least a single base; contacting the polynucleotide with at least one of the nucleotides dATP, dTTP (dTUTP), dGTP and dCTP, under conditions that permit the polymerisation reaction to proceed, wherein the at least one nucleotide comprises a detectable label specific for the nucleotide; removing any non-incorporated nucleotides and detecting any incorporation events; removing any labels; and repeating steps (ii) to (iv) to thereby identify the different units, and thereby the characteristics of the molecule.